Giant Atrial Myxoma Mimicking Severe Mitral Stenosis in Young Patient

Eric Paiva Vilela, Leonardo Moura, Danielle Pepe, Edson Nunes, Fabio Erthal, Erika Campana
Hospital do Coração Samcordis, São Gonçalo, RJ - Brazil

The echocardiogram of a twenty-year-old man, previously healthy, suffering from paroxysmal nocturnal dyspnea and fatigue after moderate exertion that intensified over a period of about ten days, showed the left atrium myxoma working as severe mitral stenosis.

Introduction

Myxoma is the most frequent primary cardiac tumor and may originate in any heart chamber, most commonly in the left atrium, whose incidence is of 75%. The clinical manifestations are related to the following triad: intracardiac obstruction, embolic phenomena and constitutional symptoms such as fever and weight loss. Primary cardiac tumors are rare, and about 75% of them are benign[1]. Atrial myxoma is most prevalent among women (two thirds of cases), and it occurs mainly between the 3rd and 6th decade[1]. Approximately 70% of patients with left atrium myxoma have cardiac symptoms, mainly heart failure and syncope[1]. The most common symptom is dyspnea (70%), followed by paroxysmal nocturnal dyspnea. The size, location and mobility of the myxoma will determine the symptomatology and severity of the valve obstruction[2]. In only 10% of patients, this obstruction will cause severe mitral stenosis[3-5].

Case report

Male patient, 20 years-old, previously healthy, went to the Cardiology Department after an episode of dyspnea during sleep. In an in-depth investigation during the taking of his medical history, he complained of fatigue from moderate exertion that intensified over a period of about 15 days, which led him to be categorized as functional class II, according to the classification of the New York Heart Association (NYHA).

Keywords

Myxoma; giant cell tumors; mitral valve stenosis; adolescent.

Mailing address: Eric Paiva Vilela •
Rua Professor Gastão Bahiana, 429 / 207 - Copacabana - 22071-030 - Rio de Janeiro, RJ - Brazil
E-mail: ericpaivavilela@gmail.com
Manuscript received March 06, 2009; revised manuscript received March 27, 2009; accepted September 25, 2009.

A physical examination revealed blood pressure of 110X70 mmHg, regular two-beat heart rhythm, systolic murmur in mitral area and without any changes in the rest of the physical examination. The electrocardiogram revealed a right bundle branch block. The echocardiogram showed a large mass that occupied almost the entire left atrium (4.3 x 8.0 cm in size). This mass was stuck to the posterior superior wall of the left atrium. The diameter of the left atrium was 5.6 cm and the estimated volume was 98 cm^3. Part of the mass protruded through the mitral valve to the left ventricle during the atrial systole (the estimated valve area was 1 cm^2), causing a restriction of the mitral flow that was compatible with severe stenosis (severe mitral stenosis). Then, surgery was indicated for removal of the tumor.

In preoperative examinations, the only change found was microcytic and hypochromic anemia. Then, the exeresis of the tumor was performed with resection of the fossa ovalis and atrioseptoplasty was performed with the use of bovine pericardium. The histopathology of the specimen confirmed the diagnosis of left atrial myxoma. There were no complications in the postoperative period and the patient was discharged five days after surgery.

Discussion

This above case describes a rare disease, myxoma, which accounts for approximately 75% of primary cardiac neoplasms[1] and, even though it is histologically benign in character, it may be responsible for severe complications and even sudden death, depending on location and size. Thus, early diagnosis and surgical removal improve the prognosis of patients[1].

Unlike the pattern observed in the literature[1-3], this is a male patient in the second decade of life. The clinical classification of the case, class II, also contradicts the most common classification, in which 70% of patients have signs and symptoms of heart failure. The occurrence of heart murmur, a sign that is very common in the literature, was also observed in this patient. It is important to highlight that the occurrence of fatigue on exertion and heart murmur in a young and previously healthy patient should not be neglected, and it requires the differential diagnosis of valve disease and hypertrophic cardiomyopathy.

General laboratory tests (blood, ECG and X-ray) can be nonspecific and contribute modestly to the diagnosis, as noted in this patient.

Several supplementary methods can be employed for diagnosing myxoma: Computed tomography, magnetic

resonance, echocardiography and the hemodynamic study. Echocardiography has been an excellent supplementary examination with a high rate of certainty in the diagnosis of myxoma[1]. In this case, the diagnosis of myxoma was made by using two-dimensional transthoracic echocardiography and the use of a hemodynamic study was not considered necessary for indicating the surgery.

Myxomas are usually pedunculated. They can vary in terms of macroscopic aspects, and many times these tumors are not unaccompanied. This case refers to a non-pedunculated, large solitary tumor that is not stuck to the wall of the atrium[6,7] (Figure 1).

In a way that was consistent with the literature, the surgical procedure was performed without technical difficulties, and there were no complications. The patient was discharged and the 19-month postoperative period was uneventful.

This case demonstrates the occurrence of a rare cardiac neoplasm. Even though it is benign, it can evolve in an unfavorable way. Thus, early diagnosis and removal improve the prognosis of the patient. A carefully taken medical history and the use of a simple supplementary method, such as echocardiography, are effective for the diagnosis. And the surgical removal has shown a high rate of cure, with safety and low mortality.

Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

Sources of Funding

There were no external funding sources for this study.

Study Association

This study is not associated with any post-graduation program.

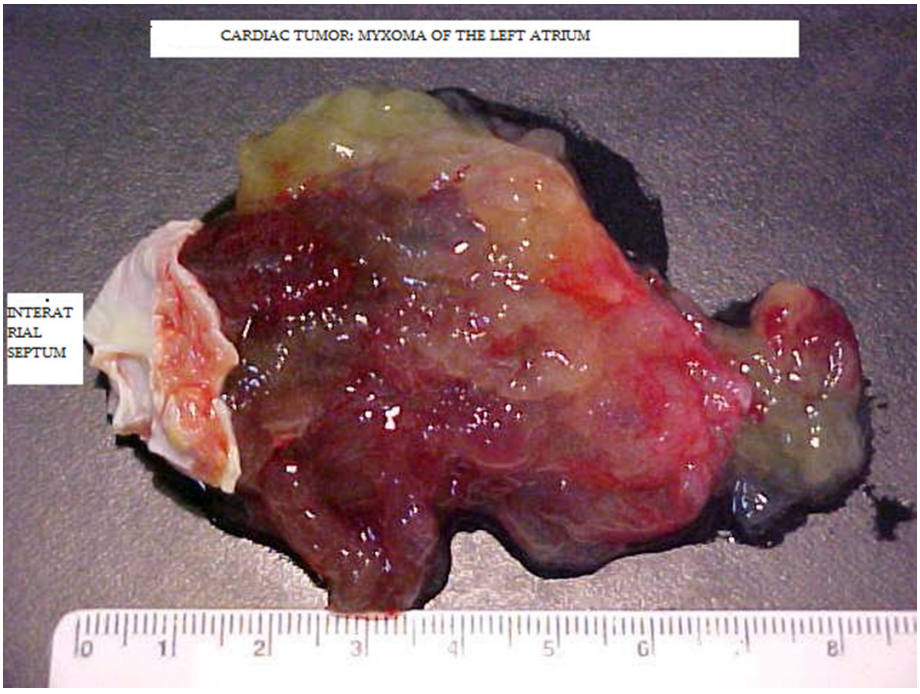

Figure 1 - Surgical specimen, 8.3-cm atrial myxoma.

References

1. Colucci WS, Schoen FJ, Sabatine MS. Tumores primários do coração. In: Libby P, Zipes DP, Bonow RO. Braunwald - tratado de doenças cardiovasculares. 7ª Ed. São Paulo: Elsevier; 2006.
2. Reynen K. Cardiac myxomas. N Engl J Med. 1995; 333 (24): 1610-7.
3. Fernandes F, Soufen HN, Ianni BM, Arteaga E, Ramires FJ, Mady C. Primary neoplasms of the heart: clinical and histological presentation of 50 cases. Arq Bras Cardiol. 2001; 76 (3): 231-7.
4. Gonzalez-Juanatey C, Regueiro-Abel M, Lopez-Agreda H, Peña-Martínez F, Gonzalez-Gay MA. Giant left atrial myxoma mimicking severe mitral valve stenosis. Int J Cardiol. 2008; 127 (3): e110-2.
5. Panidis IP, Mintz GS, McAllister M. Hemodynamic consequences of left atrial myxomas as assessed by Doppler ultrasound. Am Heart J. 1986; 111 (5): 927-31.
6. Cruz JFM, Dias LB, Neto JOR, Oliveira AS. Mixoma gigante de átrio esquerdo. Arq Bras Cardiol. 1998; 71 (5): 717-8.
7. Carvalho RG, Giublin PR, Rachid A, Costa IA, Cunha GP. Mixoma de átrio esquerdo: aspectos cirúrgicos e ultra-estruturais. Arq Bras Cardiol. 1991; 51 (5): 171-5.